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(54) **Title:** TRAY FOR FOOD PRODUCTS

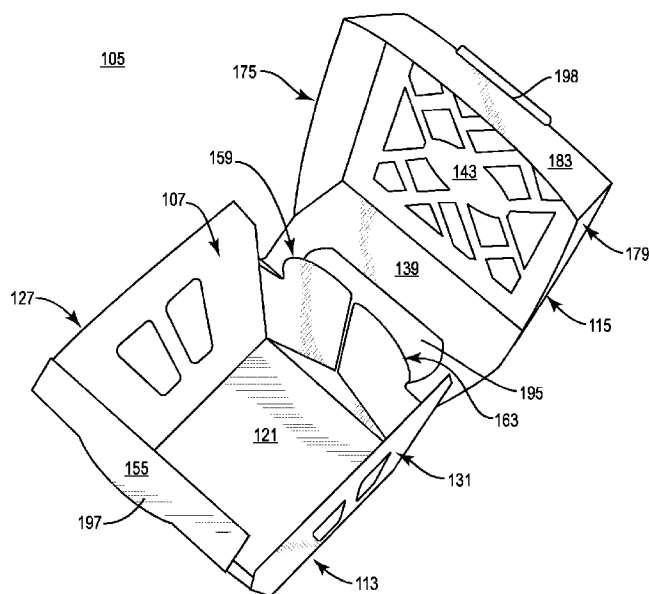


FIG. 4

(57) **Abstract:** A tray for one or more food products includes a base having a first plurality of panels extending at least partially around an interior of the tray, a lid foldably connected to the base and having a second plurality of panels, a plurality of end flaps foldably connected to a respective panel of the first plurality of panels and the second plurality of panels, and access features for facilitating reconfiguration of the tray between a closed configuration and an open configuration, the access features including an access opening formed in a portion of the lid and a portion of the base, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray is reconfigured between the closed configuration and the open configuration.

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TRAY FOR FOOD PRODUCTS**CROSS-REFERENCE TO RELATED APPLICATION**

[0001] The present application claims the benefit of U.S. Provisional Patent Application No. 63/524,293, filed on June 30, 2023.

INCORPORATION BY REFERENCE

[0002] The disclosure of U.S. Provisional Patent Application No. 63/524,293, filed on June 30, 2024, is hereby incorporated by reference for all purposes as if set forth in its entirety.

BACKGROUND OF THE DISCLOSURE

[0003] The present disclosure generally relates to trays for holding one or more food products. In some embodiments, the present disclosure relates to trays for holding one or more food products that include access features for facilitating reconfiguration of the tray between an open configuration and a closed configuration.

SUMMARY OF THE DISCLOSURE

[0004] According to one aspect, the disclosure is generally directed to a tray for holding one or more food products, the tray comprising a base comprising a first plurality of panels extending at least partially around an interior of the tray, a lid foldably connected to the base, the lid comprising a second plurality of panels, a plurality of end flaps foldably connected to a respective panel of the first plurality of panels and the second plurality of panels, and access features for facilitating reconfiguration of the tray between a closed configuration, in which the lid at least partially overlies the base of the tray, and an open configuration, in which the lid is raised away from the base, the access features comprising an access opening formed in a portion of the lid and a portion of the base, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray is reconfigured between the closed configuration and the open configuration.

[0005] According to another aspect, the disclosure is generally directed to a blank for forming a tray for holding one or more food products, the blank comprising a base portion comprising a first plurality of panels for extending at least partially around an interior of the tray formed from the blank, the base portion for forming a base of the tray formed from the blank, a lid portion foldably connected to the base portion and for forming a lid of the tray formed from the blank, the lid portion comprising a second plurality of panels, a plurality of end flaps foldably connected to a respective panel of the first plurality of panels and the second plurality of panels, and access features for facilitating reconfiguration of the tray formed from the blank between a closed configuration, in which the lid at least partially overlies the base when the tray is formed from the blank, and an open configuration, in which the lid is raised

away from the base when the tray is formed from the blank, the access features comprising an access opening formed in a portion of the lid portion and a portion of the base portion, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray formed from the blank is reconfigured between the closed configuration and the open configuration.

[0006] According to another aspect, the disclosure is generally directed to a method of forming a tray for holding one or more food products, the method comprising obtaining a base portion comprising a first plurality of panels, a lid portion comprising a second plurality of panels, the lid portion foldably connected to the base portion, a plurality of end flaps foldably connected to a respective panel of the first plurality of panels and the second plurality of panels, and access features comprising an access opening formed in a portion of the lid portion and a portion of the base portion, positioning the first plurality of panels of the base portion to form a base of the tray extending at least partially around an interior of the tray, positioning the second plurality of panels of the lid portion to form a lid of the tray, and arranging the access features for facilitating reconfiguration of the tray between a closed configuration, in which the lid at least partially overlies the base of the tray, and an open configuration, in which the lid is raised away from the base, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray is reconfigured between the closed configuration and the open configuration.

[0007] Those skilled in the art will appreciate the above-stated advantages and other advantages and benefits of various additional embodiments reading the following detailed description of the embodiments with reference to the below-listed drawing figures.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] According to common practice, the various features of the drawings discussed below are not necessarily drawn to scale. Dimensions of various features and elements in the drawings may be expanded or reduced to more clearly illustrate the embodiments of the disclosure.

[0009] Fig. 1 is a plan view of an exterior surface of a blank used to form a tray for holding one or more food products according to an exemplary embodiment of the disclosure.

[0010] Fig. 2 is a perspective view of a tray for holding food products formed from the blank of Fig. 1 according to an exemplary embodiment of the disclosure and in a closed configuration.

[0011] Fig. 3 is a rear perspective view of the tray of Fig. 2.

[0012] Fig. 4 is a perspective view of the tray of Fig. 2 in an open configuration.

[0013] Fig. 5 is another perspective view of the tray of Fig. 2 in an open configuration.

[0014] Fig. 6 is a perspective view of an alternative configuration of the tray for holding food products of Fig. 2 and in a closed configuration.

[0015] Corresponding parts are designated by corresponding reference numbers throughout the drawings.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0016] Trays according to the present disclosure can accommodate articles of numerous different shapes. For the purpose of illustration and not for the purpose of limiting the scope of the disclosure, the following detailed description describes articles such as food products, e.g., fruit or vegetable items. In one embodiment, articles described herein can be fruits such as tomatoes (e.g., cherry tomatoes, etc.), berries (e.g., blueberries, raspberries, blackberries, strawberries, etc.), apples, oranges, tangerines, clementines, lemons, limes, cherries, etc. In another embodiment, articles described herein can be product packages, containers, bottles, cans, etc., that are at least partially disposed within the tray embodiments. The articles can be used for packaging food and beverage products, for example. Packaged articles can be made from materials suitable in composition for packaging the particular food or beverage item, and the materials include, but are not limited to, glass; aluminum and/or other metals; plastics such as PET, LDPE, LLDPE, HDPE, PP, PS, PVC, EVOH, and Nylon; composite materials; and the like, or any combination thereof.

[0017] The articles described herein can include different types of food or beverage products, containers thereof, and/or having different shapes, without departing from the disclosure. In this specification, the terms “lower,” “bottom,” “upper,” and “top” indicate orientations determined in relation to fully erected and upright trays. As described herein, trays can be formed from blanks by overlapping multiple panels, portions, and/or end flaps. Such panels, portions and/or end flaps may be designated herein in terms relative to one another, e.g., “first”, “second”, “third”, etc., in sequential or non-sequential reference, without departing from the disclosure.

[0018] Fig. 1 is a plan view of an exterior surface 101 of a blank, generally indicated at 103, used to form a container assembly or tray 105 (Fig. 2) according to an exemplary embodiment of the disclosure.

[0019] As described further herein, the blank 103 can include access features for facilitating reconfiguration of the tray 105 between an open configuration and a closed configuration.

[0020] As shown, the blank 103 has a longitudinal axis L1 and a lateral axis L2 and includes a base portion 109 for forming a base 113 of the tray 105, and a lid portion 111 for forming a lid 115 of the tray 105. In this regard, the lid portion 111 of the blank 103 is foldably connected to the base portion 109 of the blank 103 such that the lid 115 of the tray 105 is foldably connected to the base 113 of the tray 105.

[0021] The blank 103 includes plurality of panels for extending at least partially around an interior 107 of the tray 105 when the tray 105 is formed from the blank 103. The panels can include a bottom panel 121, a front panel 123 foldably connected to the bottom panel 121 at a lateral fold line 125, a first side panel 127 foldably connected to the bottom panel 121 at a longitudinal fold line 129, a second side panel 131 foldably connected to the bottom panel 121 at a longitudinal fold line 133, a base back panel 135 foldably connected to the bottom panel 121 at a lateral fold line 137, a lid back panel 139 foldably connected to the base back panel 135 at a lateral fold line 141, and a lid top panel 143 foldably connected to the lid back panel 139 at a lateral fold line 145.

[0022] In the illustrated embodiment, the base portion 109 of the blank 103 and the base 113 of the tray 105 formed therefrom can include the panels 121, 123, 127, 131, 135 (broadly, “first plurality of panels”), and the lid portion 111 of the blank 103 and the lid 115 of the tray 105 formed therefrom can include the panels 139, 143 (broadly, “second plurality of panels”), though it will be understood that the base portion 109 and lid portion 111 of the blank 103 can be differently arranged without departing from the disclosure.

[0023] Accordingly, the base portion 109 of the blank 103 and the base 113 of the tray 105 formed therefrom can be foldably connected to the lid portion 111 of the blank 103 and the lid 115 of the tray 105 formed therefrom at the fold line 141.

[0024] As described herein, the interior 107 of the tray 105 is generally formed by the base 113 extending therearound. However, it will be understood that the interior 107 of the tray 105 can include additional space at least partially defined by the lid 115, for example, when the tray 105 is in the closed configuration.

[0025] The blank 103 and the tray 105 formed therefrom can also include a plurality of end flaps foldably connected to a respective panel of the plurality of panels. One or more of such end flaps can also be foldably connected to another respective end flap of the plurality of end flaps.

[0026] As shown, the plurality of end flaps can include a first front side end flap 147 foldably connected to the front panel 123 at an oblique fold line 149, a second front side end flap 151 foldably connected to the front panel 123 at an oblique fold line 153, a third front side end flap 155 foldably connected to the front panel 123 at a lateral fold line 157, a side end flap 159 foldably connected to the first side panel 127 at an oblique fold line 161, a side end flap 163 foldably connected to the second side panel 131 at an oblique fold line 165, a first attachment end flap 167 foldably connected to the lid back panel 139 at an oblique fold line 169, a second attachment end flap 171 foldably connected to the lid back panel 139 at an oblique fold line 173.

[0027] The plurality of end flaps can also include a first lid side end flap 175 foldably connected to the lid top panel 143 at a longitudinal fold line 177, a second lid side end flap 179 foldably connected to the lid top panel 143 at a longitudinal fold line 181, a third lid side end flap 183 foldably connected to the lid top panel 143 at a lateral fold line 185, a first attachment end flap 187 foldably connected to the third side end flap 183 at an oblique fold line 189, and a second attachment end flap 191 foldably connected to the third side end flap 183 at an oblique fold line 193.

[0028] In the illustrated embodiment, the end flap 159 can include a base portion 159a proximate the fold line 161, and a distal portion 159b extending away from the base portion 159a such that a gap, e.g., a notch or recess, is at least partially defined between the distal portion 159b and the side panel 127. Similarly, the end flap 163 can include a base portion 163a proximate the fold line 165, and a distal portion 163b extending away from the base portion 163a such that a gap is at least partially defined between the distal portion 163b and the side panel 131.

[0029] The blank 103 and the tray 105 formed therefrom can also include access features for facilitating reconfiguration of the tray 105 between an open configuration, in which the lid 115 is in an open position at least partially raised away from the base 113 of the tray 105, and a closed configuration, in which the lid 115 is in a closed position at least partially overlying the base 113 and/or interior 107 of the tray 105. In some embodiments, the closed configuration of the tray 105/closed position of the lid 115 can include contact between one or more of the panel 143 and end flaps 176, 179, 183 and the base 113 of the tray 105.

[0030] The access features can include an access opening 195 at least partially interrupting the fold line 141. As shown, the access opening 195 can extend across respective portions of the base back panel 135 and the lid back panel 139 so as to be formed at least partially along the base portion 109/base 113 and the lid portion 111/lid 115. In the illustrated embodiment, the access opening 195 can have a generally oblong shaped configuration, defined by a pair of spaced and parallel longitudinal edges 195a, 195b, and a pair of curved edges 195c, 195d each extending from a respective endpoint of the longitudinal edge 195a to a respective endpoint of the longitudinal edge 195b.

[0031] As described further herein, the access opening 195 is positioned for at least partially receiving a respective distal portion 159b, 163b of the respective end flaps 159, 163 to facilitate reconfiguration of the tray 105 between the open configuration and the closed configuration. It will be understood that one or more portions of one or more of the panels 135, 139, end flaps 159, 163, access opening 195, and fold line 141 can form the access features of the blank 103 and the tray 105 formed therefrom, though a different combination or sub-combination of features can form the access features without departing from the disclosure.

[0032] The blank 103 and the tray 105 formed therefrom can also include locking features for at least partially maintaining the tray 105 in the closed configuration and the lid 115 in the closed position. Such locking features can include a locking opening 198 (Fig. 2) formed by a generally bracket-shaped locking cut 196 interrupting the fold line 185 upon formation of the tray 105 from the blank 103, and a locking tab 197 at least partially formed by a generally curved cut 199 interrupting the fold line 157. As such, the locking cut 196 and subsequently formed locking opening 198 is at least partially defined between the end flap 183 and the lid top panel 143, and the locking tab 197 is positioned protruding from the remainder of the end flap 155 for being at least partially received in the locking opening 198.

[0033] Furthermore, the blank 103 and the tray 105 formed therefrom can include product visibility features in the form of pairs of product visibility openings 201 positioned in each of the panels 123, 127, 131, and a plurality of product visibility openings 203 formed in the lid top panel 143. As shown the product visibility openings 203 can include a variety of spaced apart openings of one or more different shapes. In some embodiments, such openings 203 can give the overall visual appearance of a lattice or array. It will be understood that one or more of the openings 201, 203 can provide a path to one or more articles in the interior 107 of the tray 105 from an exterior environment, for product visibility, drainage, ventilation, to reduce material, etc.

[0034] Referring now to Figs. 2-5, formation of the tray 105 from the blank 103 according to some exemplary embodiments of the disclosure will be described. In order to form the base 113 of the tray 105, the panels 123, 127, 141, 135 can be at least partially folded at the respective fold lines 125, 129, 133, 137 into a generally upright position relative to the bottom panel 121 such that the panels 123, 127, 131, 135 are positioned extending at least partially around the interior 107 of the tray 105.

[0035] Simultaneously or thereafter, the end flaps 147, 151 can be at least partially folded at the respective fold lines 149, 153 and positioned in at least partial face-to-face contact with respective portions of the interior surface of the respective panels 127, 131, and the end flaps 159, 163 can be foldably connected at the respective fold lines 161, 165 and positioned in at least partial face-to-face contact with respective portions of the interior surface the base back panel 135. In particular, the base portions 159a, 163b of the respective end flaps 159, 163 can be positioned in at least partial face-to-face contact with respective portions of the interior surface of the base back panel 135, with the respective distal portions 159b, 163b thereof positioned extending upwardly so as to be at least partially aligned with the access opening 195.

[0036] It will be understood that the end flap 155 can also be folded at the fold line 157 to extend in generally parallel relation to the bottom panel 121 and such that the locking tab 197 at least partially separates from the panel 123 at the cut 199.

[0037] To form the lid 115 of the tray 105, according to some exemplary embodiments, the lid top panel 143 can be at least partially folded relative to the lid back panel 139 at the fold line 145, the end flaps 175, 179, 183 can be folded at the respective fold lines 177, 181, 185 into generally downward relation relative to the lid top panel 143, the end flaps 167, 187 can be folded at the respective fold lines 169, 189 into at least partial face-to-face contact with respective portions of the end flap 175, and the end flaps 171, 191 can be folded at the respective fold lines 173, 193 into at least partial face-to-face contact with respective portions of the end flap 179. The aforementioned folding of the end flap 183 can cause at least partial separation of the end flap 183 and the lid top panel 143 at the cut 196 to form the locking opening 198 between the end flap 183 and the lid top panel 143.

[0038] In some embodiments, the above-described arrangement of panels and end flaps can be at least partially maintained with one or more applications of an adhesive such as glue. It will be understood that one or more food products P (Fig. 6) can be positioned in the interior 107 of the tray 105 during or following the aforementioned erection of the tray 105 from the blank 103.

[0039] Figs. 2 and 3 illustrate the closed configuration of the tray 105, in which the lid 115 is in the closed position. In order to at least partially maintain the closed configuration of the tray 105, the locking features can be activated such that the locking tab 197 is at least partially received in the locking opening 198.

[0040] In order to transition the tray 105 to the open configuration, as shown in Figs. 4 and 5, the locking tab 197 can be disengaged, e.g., withdrawn, from the locking opening 198, and the lid back panel 139 can be folded relative to the base back panel 135 such that the lid 115 is folded about the fold line 141 upwardly and away from the interior 107 of the tray 105. Such movement of the lid 115 can also involve at least partial folding of the lid top panel 143 at the fold line 145.

[0041] In this regard, the positioning of the access opening 195 adjacent the distal portions 159b, 163b of the respective end flaps 159, 163 is such that, when the lid 115 is folded about the fold line 141, the upper edge and respective portions of the side edges of the access opening 195 move over/past the distal portions 159b, 163b of the end flaps 159, 163 without contacting them or with minimal contact therewith so as to not interfere with movement of the lid 115. Accordingly, when the tray 105 is reconfigured between the closed configuration and the open configuration, at least a portion of the end flaps 159, 165 can be at least partially received through in the access opening 195.

[0042] Such arrangement of the access opening 195 and the end flaps 159, 163 allows the fold line 141, e.g., the line at which the lid 115 is foldably moveable relative to the base 113 of the tray 105, to be positioned at a height H1 (Fig. 3) measured vertically from the bottom panel 121 that allows for a relatively greater range of rotational movement of the lid 115 as compared to, for example, a tray lacking the configuration of the end flaps 159, 163 and the access opening 195.

[0043] Furthermore, the upper edge 195a of the access opening 195 can be positioned at a height H2 (Fig. 3) that is greater than the height H1 such that the edge 195a of the access opening 195 is spaced above the fold line 141. Furthermore, the distal portions 159b, 163b of the respective end flaps 159, 163 are positioned approaching the height H2 so as to extend above the edge 195b of the access opening 195 and the fold line 141. In some embodiments, a free uppermost edge of the end flaps 159, 163 can have the height H2. In other embodiments, the free uppermost edges of the end flaps 159, 163 can have a height less than H2 but greater than H1. In some embodiments, the ratio of H1 to H2 can be between 0.6 and 0.7, for example, about 0.67. It will be understood that H1 and H2 can have different values without departing from the disclosure.

[0044] Advantageously, the arrangement of the end flaps 159, 163 having respective distal portions 159b, 163b approaching and reaching the height H2 provides structure about the base back panel 135 that can maintain the position of one or more articles in the interior 107 of the tray 105, e.g., so as to allow for greater filling volume for additional product, to avoid spillage through the access opening 195, etc.

[0045] Furthermore, the range of rotational motion afforded the lid 115 about the fold line 141 relative to the base 113 of the tray 105 allows the lid 115 to reach an inverted position in which the lid top panel 143 can be arranged generally parallel to and at vertically aligned, e.g., so as to be at the same vertical height, as the bottom panel 121.

[0046] In this regard, forming, loading, gluing, treating, wrapping, and/or finishing operations associated with the tray 105 can be accomplished on a common supporting surface, e.g., supporting plate, belt, conveyor, rail, etc., and at the same height. Accordingly, manufacturing processes can be streamlined. Furthermore, erected trays 105 can be conveniently nested, e.g., stacked such that the interior 107 of a tray 105 can at least partially receive another tray 105 therein. For example, such nesting of trays could occur on a stable surface with each tray 105 in an open configuration as shown in Fig. 5.

[0047] With additional reference to Fig. 6, an alternative configuration of the tray 105 is generally designated 105A. The tray 105A and an associated blank for forming the tray 105A can have a configuration similar to that described above with respect to the respective tray 105 and blank 103, except that in place of the plurality of product visibility openings 203, a relatively larger product visibility opening 203A is formed in the lid top panel 143. Such a widened opening 203A can allow for greater visibility of one or more products in the interior 107 of the tray 105A, can allow for product access therethrough, etc. It will be understood that trays can be provided with different product visibility opening configurations without departing from the disclosure.

[0048] The blanks according to the present disclosure can be, for example, formed from coated paperboard and similar materials. For example, the interior and/or exterior sides of the blanks can be coated with a clay coating. The clay coating may then be printed over with product, advertising, price coding, and other information or images. The blanks may then be coated with a varnish to protect any information printed on the blank. The blanks may also be coated with, for example, a moisture barrier layer, on either or both sides of the blanks. In accordance with the above-described embodiments, the blank may be constructed of paperboard of a caliper such that it is heavier and more rigid than ordinary paper. The blanks can also be constructed of other materials, such as cardboard, hard paper, or any other material having properties suitable for enabling the trays, to function at least generally as described above. The blanks can also be laminated to or coated with one or more sheet-like materials at selected panels or panel sections.

[0049] In accordance with the above-described embodiments of the present disclosure, a fold line can be any substantially linear, although not necessarily straight, form of weakening that facilitates folding therealong. More specifically, but not for the purpose of narrowing the scope of the present disclosure, fold lines include: a score line, such as lines formed with a blunt scoring knife, or the like, which creates a crushed portion in the material along the desired line of weakness; a cut that extends partially into a material along the desired line of weakness, and/or a series of cuts that extend partially into and/or completely through the material along the desired line of weakness; and various combinations of these features.

[0050] As an example, a tear line can include: a slit that extends partially into the material along the desired line of weakness, and/or a series of spaced apart slits that extend partially into and/or completely through the material along the desired line of weakness, or various combinations of these features. As a more specific example, one type tear line is in the form of a series of spaced apart slits that extend completely through the material, with adjacent slits being spaced apart slightly so that a nick (e.g., a small somewhat bridging-like piece of the material) is defined between the adjacent slits for typically temporarily connecting the material across the tear line. The nicks are broken during tearing along the tear line. The nicks typically are a relatively small percentage of the tear line, and alternatively the nicks can be omitted from or torn in a tear line such that the tear line is a continuous cut line. That is, it is within the scope of the present disclosure for each of the spaced apart slits to be replaced with a continuous slit, a continuous score, or the like. For example, a cut line can be a continuous slit or could be wider than a slit without departing from the present disclosure. Also, a tear line can be a series of cut scores passing completely, or partially, through the material, that are separated by nicks.

[0051] The term “glue” is intended to encompass all manner of adhesives commonly used to secure tray panels in place.

[0052] The foregoing description of the disclosure illustrates and describes various exemplary embodiments. Various additions, modifications, changes, etc., could be made to the exemplary embodiments without departing from the spirit and scope of the disclosure. It is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. Additionally, the disclosure shows and describes only selected embodiments of the disclosure, but the disclosure is capable of use in various other combinations, modifications, and environments and is capable of changes or modifications within the scope of the inventive concept as expressed herein, commensurate with the above teachings, and/or within the skill or knowledge of the relevant art. Furthermore, certain features and characteristics of each embodiment may be selectively interchanged and applied to other illustrated and non-illustrated embodiments of the disclosure.

WHAT IS CLAIMED IS:

1. A tray for holding one or more food products, the tray comprising:

a base comprising a first plurality of panels extending at least partially around an interior of the tray;

a lid foldably connected to the base, the lid comprising a second plurality of panels;

a plurality of end flaps foldably connected to a respective panel of the first plurality of panels and the second plurality of panels; and

access features for facilitating reconfiguration of the tray between a closed configuration, in which the lid at least partially overlies the base of the tray, and an open configuration, in which the lid is raised away from the base, the access features comprising an access opening formed in a portion of the lid and a portion of the base, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray is reconfigured between the closed configuration and the open configuration.
2. The tray of claim 1, wherein the first plurality of panels comprises a bottom panel, a front panel, at least one side panel, and a base back panel, the access opening at least partially defined in the base back panel.
3. The tray of claim 2, wherein the second plurality of panels comprises a lid top panel and a lid back panel, the access opening at least partially defined in the lid back panel.
4. The tray of claim 3, wherein, when the tray is in the open configuration, the lid top panel is positionable to be generally vertically aligned with the bottom panel.
5. The tray of claim 4, wherein the at least one end flap is a side end flap foldably connected to the at least one side panel and positioned in at least partial face-to-face contact with the base back panel.
6. The tray of claim 5, wherein the side end flap is positioned in at least partial face to-face contact with an interior surface of the base back panel.
7. The tray of claim 5, wherein the side end flap comprises a base portion and a distal portion extending upwardly from the base portion, the distal portion of the side end flap at least partially aligned with the access opening.
8. The tray of claim 7, wherein the lid back panel is foldably connected to the base back panel at a fold line interrupted by the access opening.

9. The tray of claim 8, wherein the access opening is at least partially defined by an upper edge and a lower edge, the upper edge spaced above the fold line.

10. The tray of claim 9, wherein the distal portion of the side end flap extends above the lower edge of the access opening.

11. The tray of claim 5, further comprising locking features, the locking features comprising a locking tab extending from a respective end flap of the plurality of end flaps for being at least partially received between a locking opening at least partially defined between a respective panel of the plurality of panels and a respective end flap of the plurality of end flaps to maintain the tray in the closed configuration.

12. The tray of claim 11, wherein the locking tab extends from a front side end flap foldably connected to the front panel, and the locking opening is at least partially defined between the lid top panel and a lid side end flap foldably connected to the lid top panel.

13. The tray of claim 12, further comprising product visibility features in a respective panel of the plurality of panels providing a path from an exterior environment to the interior of the tray.

14. A blank for forming a tray for holding one or more food products, the blank comprising:

a base portion comprising a first plurality of panels for extending at least partially around an interior of the tray formed from the blank, the base portion for forming a base of the tray formed from the blank;

a lid portion foldably connected to the base portion and for forming a lid of the tray formed from the blank, the lid portion comprising a second plurality of panels;

a plurality of end flaps foldably connected to a respective panel of the first plurality of panels and the second plurality of panels; and

access features for facilitating reconfiguration of the tray formed from the blank between a closed configuration, in which the lid at least partially overlies the base when the tray is formed from the blank, and an open configuration, in which the lid is raised away from the base when the tray is formed from the blank, the access features comprising an access opening formed in a portion of the lid portion and a portion of the base portion, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray formed from the blank is reconfigured between the closed configuration and the open configuration.

15. The blank of claim 14, wherein the first plurality of panels comprises a bottom panel, a front panel, at least one side panel, and a base back panel, the access opening at least partially defined in the base back panel.

16. The blank of claim 15, wherein the second plurality of panels comprises a lid top panel and a lid back panel, the access opening at least partially defined in the lid back panel.

17. The blank of claim 16, wherein, when the tray formed from the blank is in the open configuration, the lid top panel is positionable to be generally vertically aligned with the bottom panel.

18. The blank of claim 17, wherein the at least one end flap is a side end flap foldably connected to the at least one side panel and for being positioned in at least partial face-to-face contact with the base back panel when the tray is formed from the blank.

19. The blank of claim 18, wherein the side end flap comprises a base portion and a distal portion extending upwardly from the base portion, the distal portion of the side end flap for being at least partially aligned with the access opening when the tray is formed from the blank.

20. The blank of claim 19, wherein the lid back panel is foldably connected to the base back panel at a fold line interrupted by the access opening.

21. The blank of claim 20, wherein the access opening is at least partially defined by an upper edge and a lower edge, the upper edge spaced away from the fold line.

22. The blank of claim 21, wherein the distal portion of the side end flap is for being positioned extending above the lower edge of the access opening when the tray is formed from the blank.

23. The blank of claim 18, further comprising locking features, the locking features comprising a locking tab extending from a respective end flap of the plurality of end flaps for being at least partially received between a locking opening at least partially defined between a respective panel of the plurality of panels and a respective end flap of the plurality of end flaps to maintain the tray formed from the blank in the closed configuration.

24. The blank of claim 23, further comprising product visibility features in a respective panel of the plurality of panels providing a path from an exterior environment to the interior of the tray formed from the blank.

25. A method of forming a tray for holding one or more food products, the method comprising:

obtaining a base portion comprising a first plurality of panels, a lid portion comprising a second plurality of panels, the lid portion foldably connected to the base portion, a plurality of end flaps

foldably connected to a respective panel of the first plurality of panels and the second plurality of panels, and access features comprising an access opening formed in a portion of the lid portion and a portion of the base portion;

positioning the first plurality of panels of the base portion to form a base of the tray extending at least partially around an interior of the tray;

positioning the second plurality of panels of the lid portion to form a lid of the tray; and

arranging the access features for facilitating reconfiguration of the tray between a closed configuration, in which the lid at least partially overlies the base of the tray, and an open configuration, in which the lid is raised away from the base, the access opening for at least partially receiving at least one end flap of the plurality of end flaps when the tray is reconfigured between the closed configuration and the open configuration.

26. The method of claim 25, wherein the first plurality of panels comprises a bottom panel, a front panel, at least one side panel, and a base back panel, the access opening at least partially defined in the base back panel.

27. The method of claim 26, wherein the second plurality of panels comprises a lid top panel and a lid back panel, the access opening at least partially defined in the lid back panel.

28. The method of claim 27, wherein the tray is reconfigurable to the open configuration such that the lid top panel is positionable to be generally vertically aligned with the bottom panel.

29. The method of claim 28, wherein the at least one end flap is a side end flap foldably connected to the at least one side panel, and the method comprises positioning the at least one side panel in at least partial face-to-face contact with the base back panel.

30. The method of claim 29, wherein the method comprises positioning the at least one side panel in at least partial face-to-face contact with an interior surface the base back panel.

31. The method of claim 29, wherein the side end flap comprises a base portion and a distal portion extending upwardly from the base portion, the method comprises positioning the distal portion of the side end flap at least partially aligned with the access opening.

32. The method of claim 31, wherein the lid back panel is foldably connected to the base back panel at a fold line interrupted by the access opening.

33. The method of claim 32, wherein the access opening is at least partially defined by an upper edge and a lower edge, the upper edge spaced above the fold line.

34. The method of claim 33, wherein the method comprises positioning the distal portion of the side end flap extending above the lower edge of the access opening.

35. The method of claim 29, further comprising locking features, the locking features comprising a locking tab extending from a respective end flap of the plurality of end flaps for being at least partially received between a locking opening at least partially defined between a respective panel of the plurality of panels and a respective end flap of the plurality of end flaps to maintain the tray in the closed configuration.

36. The method of claim 35, wherein the locking tab extends from a front side end flap foldably connected to the front panel, and the locking opening is at least partially defined between the lid top panel and a lid side end flap foldably connected to the lid top panel.

37. The method of claim 36, further comprising product visibility features in a respective panel of the plurality of panels providing a path from an exterior environment to the interior of the tray.

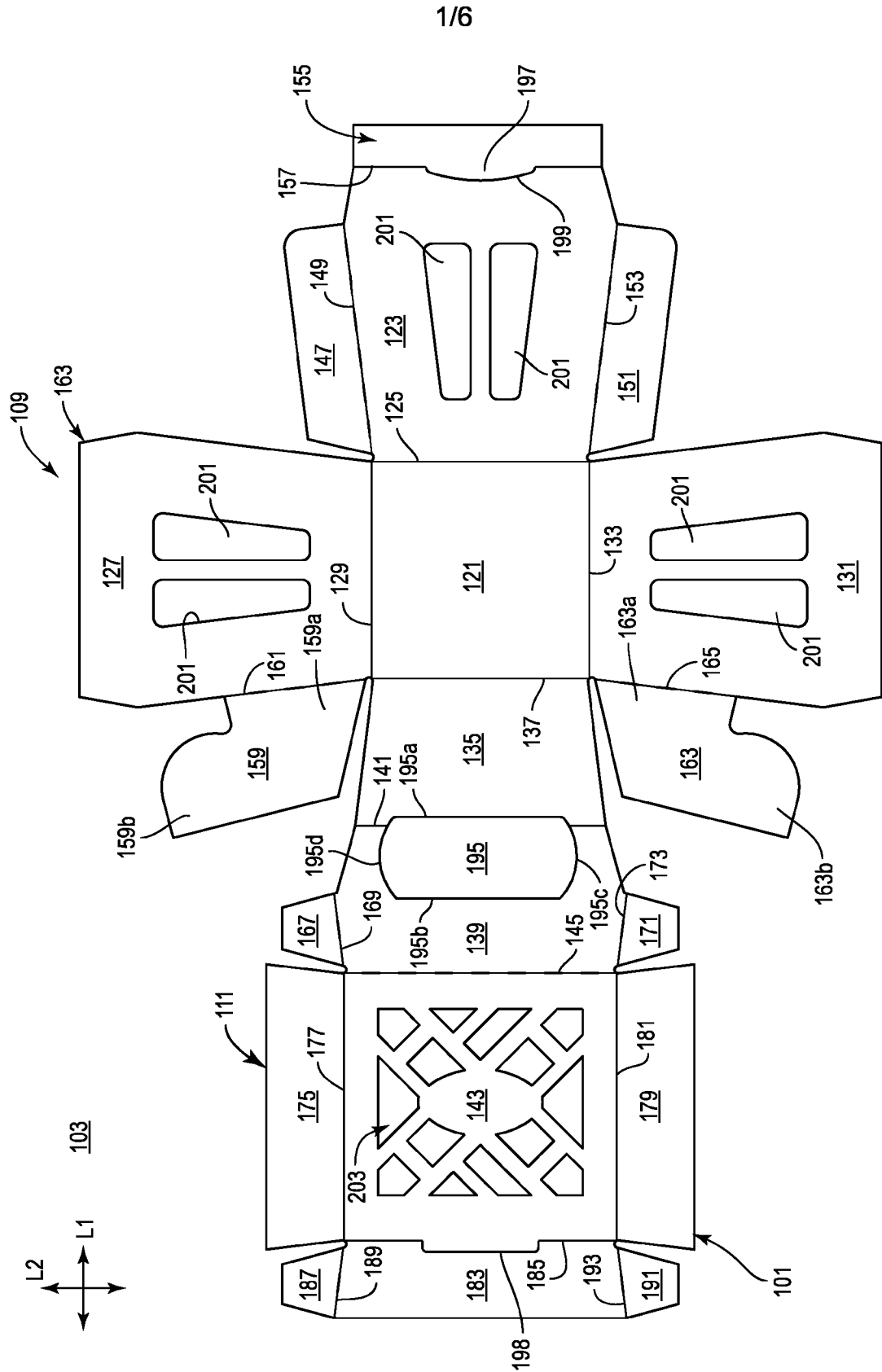


FIG. 1

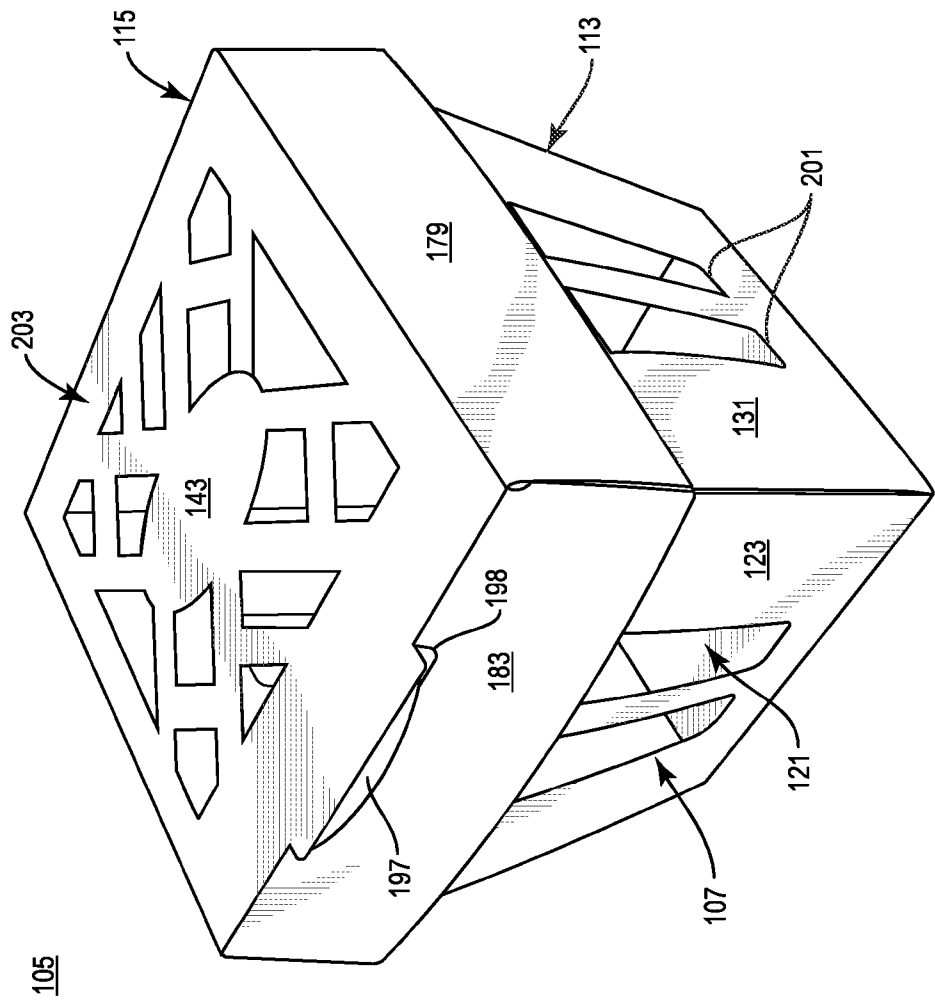


FIG. 2

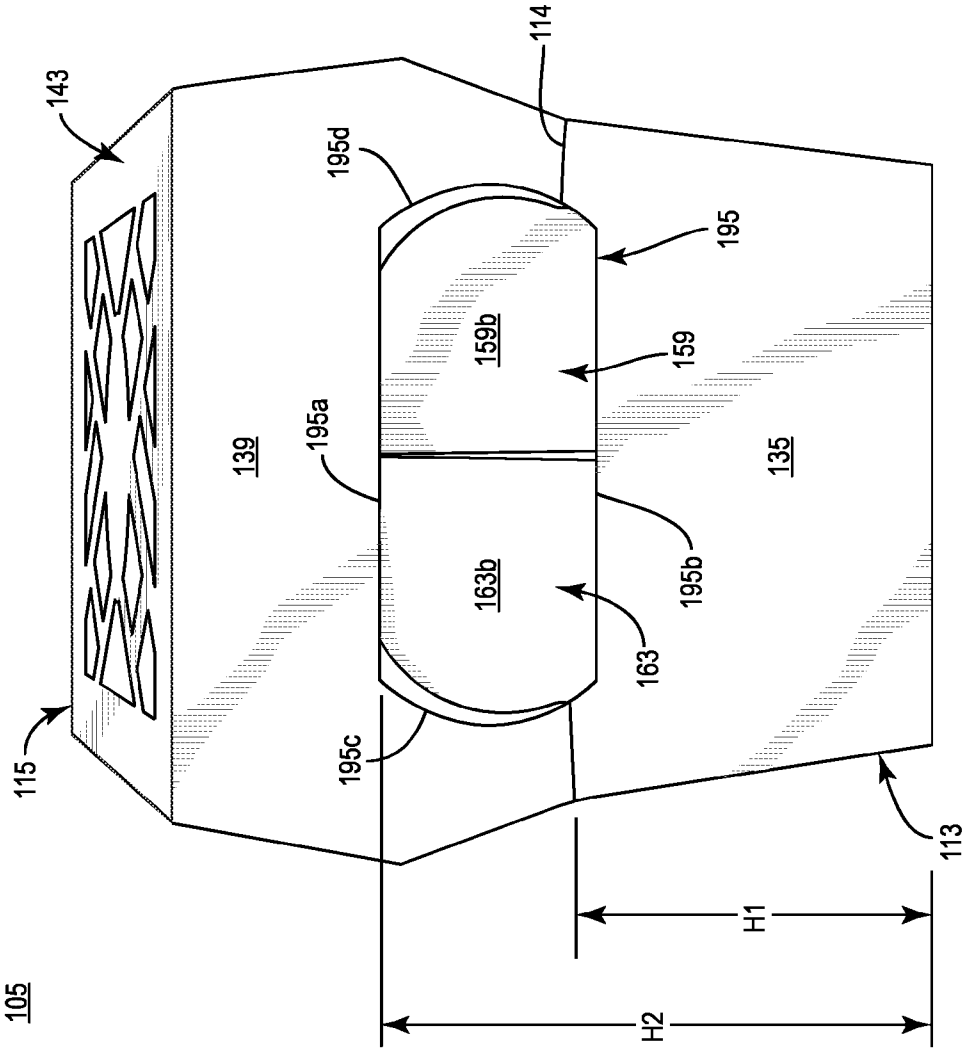


FIG. 3

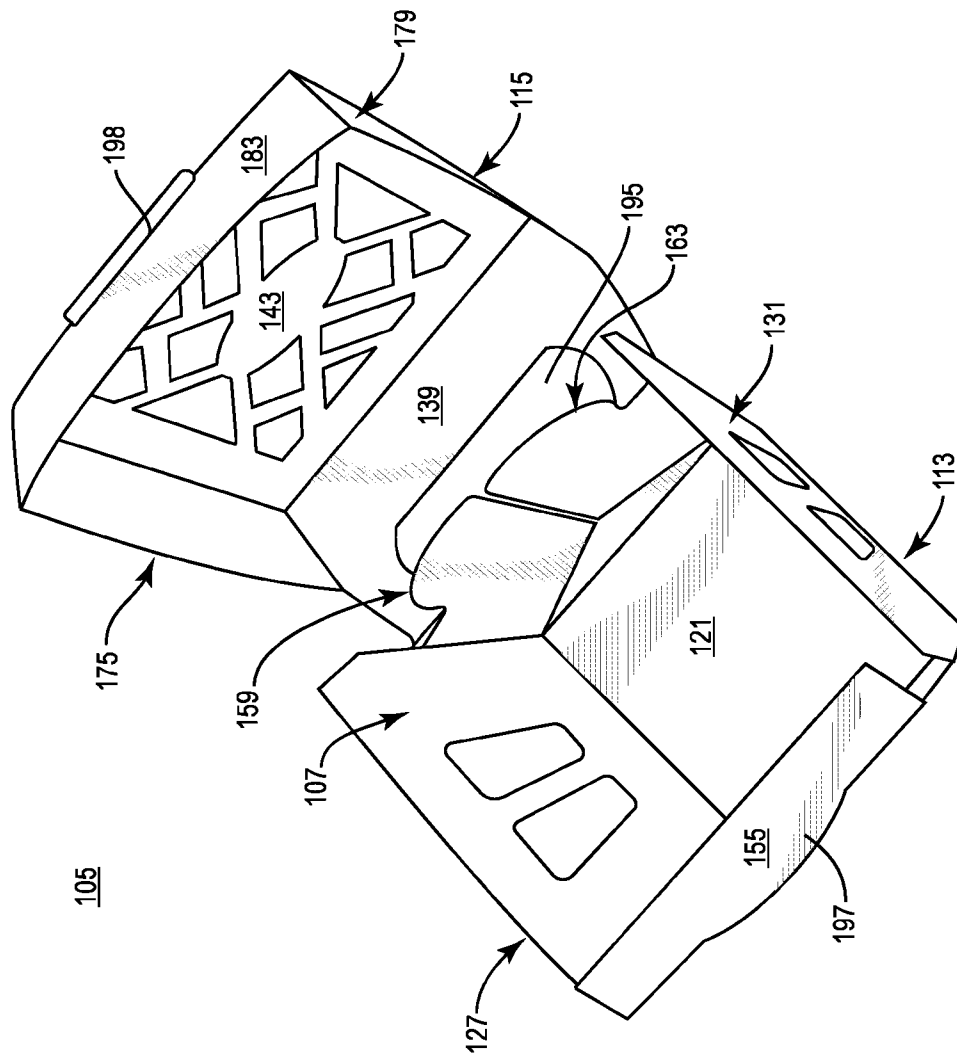


Fig. 4

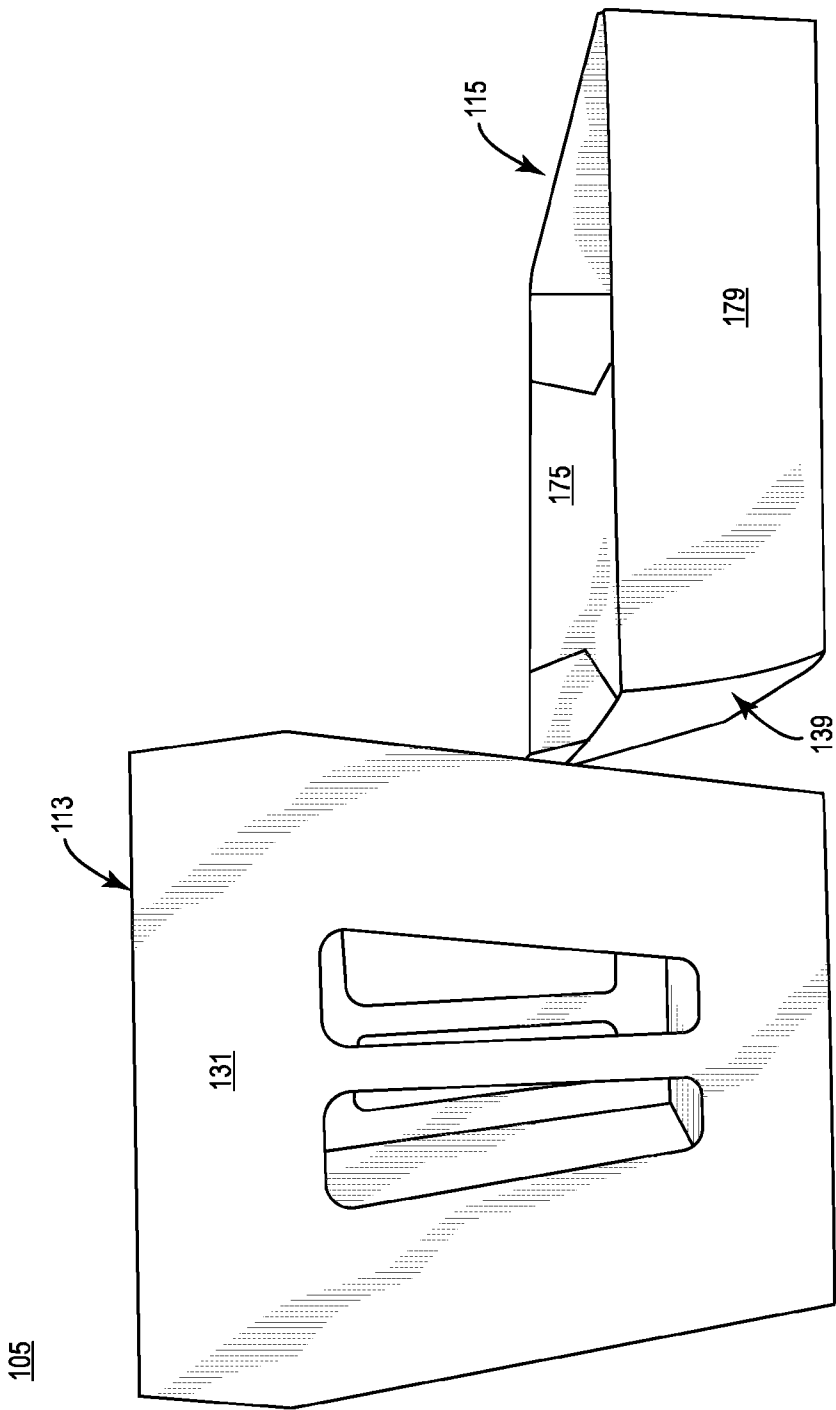


FIG. 5

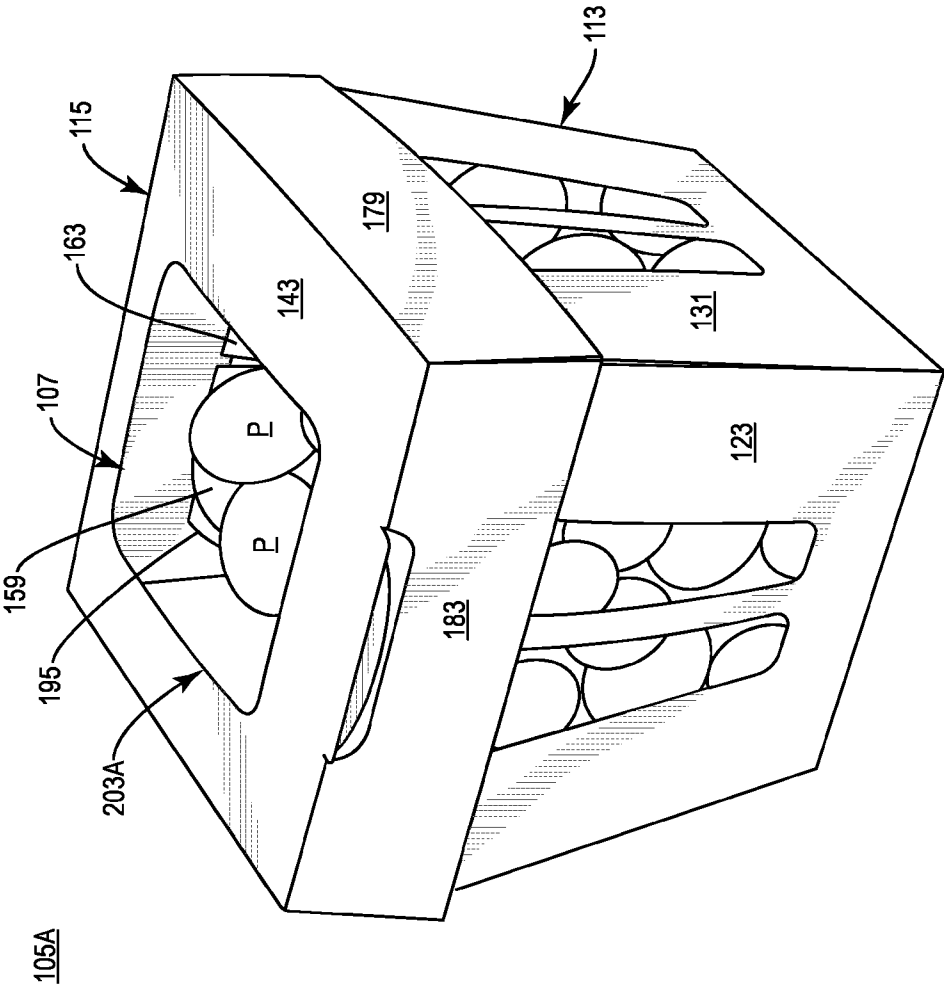


FIG. 6

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2024/035952

A. CLASSIFICATION OF SUBJECT MATTER B65D 5/20(2006.01)i; B65D 5/66(2006.01)i According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) B65D 5/20(2006.01); B65D 25/54(2006.01); B65D 47/32(2006.01); B65D 5/24(2006.01); B65D 5/30(2006.01); B65D 5/42(2006.01); B65D 5/46(2006.01); B65D 85/34(2006.01) Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean utility models and applications for utility models Japanese utility models and applications for utility models Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS(KIPO internal) & Keywords: tray, locking opening, access features, flap, blank, lid, open configuration		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2019-0300230 A1 (GRAPHIC PACKAGING INTERNATIONAL, LLC) 03 October 2019 (2019-10-03) paragraphs [0024]-[0062] and figures 10-12	1-37
Y	JP 63-079322 U (TOPPAN PRINTING CO., LTD.) 25 May 1988 (1988-05-25) figures 1-3	1-37
Y	US 2011-0290809 A1 (LIEBOWITZ et al.) 01 December 2011 (2011-12-01) paragraph [0036] and figures 1-2	13,24,37
A	JP 2018-177242 A (OJI HOLDINGS CORP.) 15 November 2018 (2018-11-15) paragraphs [0014]-[0029] and figures 3-5	1-37
A	EP 0392227 A1 (CARTOTECNICA POLIGRAFICA BIANCHI S.P.A.) 17 October 1990 (1990-10-17) claim 1 and figures 1-6	1-37
☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents: “A” document defining the general state of the art which is not considered to be of particular relevance “D” document cited by the applicant in the international application “E” earlier application or patent but published on or after the international filing date “L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) “O” document referring to an oral disclosure, use, exhibition or other means “P” document published prior to the international filing date but later than the priority date claimed “T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention “X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone “Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art “&” document member of the same patent family		
Date of the actual completion of the international search 26 November 2024		Date of mailing of the international search report 26 November 2024
Name and mailing address of the ISA/KR Korean Intellectual Property Office 189 Cheongsa-ro, Seo-gu, Daejeon 35208, Republic of Korea Facsimile No. +82-42-481-8578		Authorized officer HWANG, Chan Yoon Telephone No. +82-42-481-3347

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

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				CA	3093778	A1	10 October 2019
				CA	3093778	C	17 January 2023
				EP	3774560	A1	17 February 2021
				EP	3774560	A4	12 January 2022
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				EP	0392227	B1	24 February 1993
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				IT	1229016	B	12 July 1991